What is claimed is:

1. An optical bridge for transmitting light between pairs of optically active areas, each pair of optically active areas including a first optically active area on a first optical component and a second optically active area on a second optical component in opposed spaced apart relationship to said first optical component, comprising:

one or more waveguides each extending between a corresponding pair of optically active areas,

where each of said one or more waveguides has an outer surface between said corresponding pair of optically active areas, and where the cross-section of said outer surface in a plane between said corresponding pair of optically active areas is concave.

2. The optical bridge of claim 1, wherein said one or more waveguides is comprises an optical polymer formed from an optical liquid.

3. The optical bridge of claim 2, wherein said optical polymer is curable epoxy or gel.

4. The optical bridge of claim 1, wherein said first optical component and said second optical component are approximately parallel and said separated by a distance of from approximately 10 μm to approximately 1000 μm.

5. The optical bridge of claim 2, further comprising a wetting surface capable of wetting said optical liquid and on at least one optically active area of said corresponding pair of optically active areas, where said wetting surface is surrounded by a non-wetting surface of said optical liquid.

6. The optical bridge of claim 2, further comprising a non-wetting surface capable of not wetting said optical liquid surrounding at least one optically active area of said corresponding pair of optically active areas.

7. The optical bridge of claim 1, wherein at least one of said one or more waveguides has, at said first optically active area, approximately the same boundary as said first optically active area, and has, at said second optically active area, approximately the same boundary as said second optically active area.

8. The optical bridge of claim 1, wherein one of the pair of optically active areas is a transmitting area and wherein the other of the pair of optically active areas is a receiving area, wherein said transmitting transmits light from said transmitting area to said receiving area, wherein

said waveguide at said transmitting area has approximately the same boundary or a larger boundary than said transmitting area, and wherein said waveguide at said receiving area has approximately the same boundary as said receiving area.

9. The optical bridge of claim 1, wherein said first optical component is an optical circuit board.

10. The optical bridge of claim 9, wherein said first optical component is a waveguide daughter board.

11. The optical bridge of claim 1, wherein said second optical component includes a photodiode array.

12. The optical bridge of claim 1, wherein said second optical component includes a vertical cavity surface emitting laser.

13. The optical bridge of claim 9, wherein said optical circuit board includes a waveguide core within said first optical component and wherein said waveguide includes a portion between the surface of said first optical component and said waveguide core.

14. An apparatus for optically communicating through one or more optically active areas of an optical component, comprising:

an optical circuit board having and a surface comprising at least one optically active area; and

one or more optical bridges each including a waveguide each extending between a pair of optically active areas, wherein one of said pair of optically active areas is an optically active area of said optical component and wherein the other of said pair of optically active areas is a corresponding optically active area of said optical circuit board, wherein each of said one or more waveguides has an outer surface between said corresponding pair of optically active areas, and where the cross-section of said outer surface in a plane between said pair of optically active areas is concave.

15. The apparatus for optically communicating of claim 14, wherein said one or more waveguides is an optical polymer formed from an optical liquid.

16. The apparatus for optically communicating of claim 15, wherein said optical liquid is curable epoxy or gel.

17. The apparatus for optically communicating of claim 14, wherein said optical circuit board and said optical component are approximately parallel and said separated by a distance of from approximately 10 μm to approximately 1000 μm.

18. The apparatus for optically communicating of claim 15, further comprising a wetting surface capable of wetting said optical liquid and on at least one optically active area of said pair of optically active areas, where said wetting surface is surrounded by a non-wetting surface of said optical liquid.

19. The apparatus for optically communicating of claim 15, further comprising a non-wetting surface capable of not wetting said optical liquid and surrounding at least one optically active area of said pair of optically active areas.

20. The apparatus for optically communicating of claim 14, wherein at least one of said one or more waveguides has, at said first optically active area, approximately the same boundary as said first optically active area, and has, at said second optically active area, approximately the same boundary as said second optically active area.

21. The apparatus for optically communicating of claim 14, wherein one of the pair of optically active areas is a transmitting area and wherein the other of the pair of optically active areas is a receiving area, wherein said transmitting transmits light from said transmitting area to said receiving area, wherein said waveguide at said transmitting area has approximately the same boundary or a larger boundary than said transmitting area, and wherein said waveguide at said receiving area has approximately the same boundary as said receiving area.

22. The apparatus for optically communicating of claim 14, wherein said optical circuit board is a waveguide daughter board.

23. The apparatus for optically communicating of claim 14, wherein said optical component includes a photodiode array.

24. The apparatus for optically communicating of claim 14, wherein said optical component includes a vertical cavity surface emitting laser.

25. The apparatus for optically communicating of claim 14, wherein said optical circuit board includes a waveguide core and wherein said waveguide includes a portion between the surface of said optical circuit board and said waveguide core.

26. A method of forming an optical bridge comprising:

depositing a curable optical liquid on either one or both of a pair of optically active areas including a first optically active area of a first optical component and a second optically active area of a second optical component;

aligning said first and second optical components with said pair of optically active areas in an opposing and spaced apart relationship;

adjusting said spacing of said aligned optical components to where said optical liquid contacts each of said pair of optically active areas;

further adjusting said spacing of said aligned optical components to a spacing to produce an optical liquid having a concave shape between said pair of optically active areas; and

curing said optical liquid.

27. The method of claim 26, wherein said optically active area includes a surface capable of wetting said optical liquid, and wherein said depositing deposits said curable optical liquid on said wetting surface.

28. The method of claim 26, wherein one or both of said first optical component and said second optical component includes a surface capable of not wetting said optical liquid and surrounding said corresponding optically active area.

29. The method of claim 26, further including forming a spacing component on one or both of said first and second optical components, wherein said adjusting said spacing includes contacting said spacing component and said optical components.

30. The method of claim 26, wherein said adjusting said spacing includes forming an outer surface of said optical liquid between said pair of outer surfaces having a concave longitudinal cross-section.

31. The method of claim 26, wherein said first optical component is an optical waveguide having an embedded waveguide core, further including providing an opening from said first optically active area to said waveguide core and depositing said optical liquid in said opening.

32. The method of claim 26, wherein said curing includes heating said optical liquid to a temperature of from about 20°C to about 200°C.

33. The method of claim 26, wherein said curing includes exposing said optical liquid to UV radiation.

34. The method of claim 26, wherein said adjusting said spacing adjusts said spacing from approximately 20-70 μm to approximately 100-150 μm.